

## II. Summary of the Applicant's Amendments

The Specification has been amended to correct minor typographical and grammatical errors present therein. Claims 44-48 have been added. The Applicant submits that no new matter has been added by such amendment.

## III. Applicant's Response to the Examiner's Rejections

The Applicants traverse the rejection of the aforementioned claims as set forth in greater detail below.

### A. Rejection of claims 1-6 and 27

The present invention is directed to a system and corresponding method for supporting multiple displays per single drawing surface, wherein virtual desktop mode (i.e. incompatible resolution capability) operation is precluded. By preventing virtual desktop mode operation from occurring, the resulting plurality of displays are capable of providing a processed image or series of images without image distortion. In those systems where multiple displays, having different resolutions, are being used, an image or object that is being presented on the first of the multiple displays may not be able to be presented on a plurality of the remaining displays. In such a situation, the resources of the underlying computer system, corresponding to the displays which cannot present the object or image, are wasted. The claimed invention is directed to a system and corresponding method which prevents virtual desktop mode operation by providing that each of the displays, coupled to a system, are capable of presenting representative video image or object data by being provided with the same display capability parameters. The corresponding advantages and features of the present invention are made possible by performing the following operations as defined in claim 1:

“...substituting selected display capabilities for the received capability parameters; and  
providing the selected display capabilities to an operating system...”

Such combination of operations is not taught or suggested by Endres, et al., as modified by Kotha, et al. Accordingly, the invention as defined in claim 1 is not rendered obvious thereby.

As understood, Endres, et al. is directed to a system and technique for allocating display information, where such information to be displayed is received by a graphical device interface (GDI) program that modifies the information to be displayed on one or more devices

before such modified information is provided to the device drivers which control the application and presentation of images on a corresponding single display (see, for example, column 7, lines 8-10; column 8, lines 9-17 and lines 22-29). Thus, as Endres, et al., discloses the GDI formatting the information before such information is displayed on a single display device, Endres, et al., does not teach, suggest or provide the motivation to "...substituting selected display capabilities for the received capability parameters..." as neither substitution nor receipt of display capability parameters is required by Endres, et al., as the data to be presented is formatted independently of and before such image data is presented for display.

Further, Endres, et al. discloses a system where the format of the resulting image data is presented, for example, in a raster format or pixel format, corresponding to the lowest common denominator of the capabilities to all of the attached device drivers and adapters. Thus, as image and/or video information is presented in a lowest common denominator format, "...substituting selected display capabilities for the received capability parameters..." is not performed as the resulting image format is based on capabilities that are common to, and correspond to all of the corresponding device drivers; therefore, corresponding to all of the displays that may be coupled to the system. Consequently, substituting selected display capability parameters for the received capability parameters of each of the plurality of display devices coupled to the system is not taught or suggested in Endres, et al. Correspondingly, "...providing the selected display capabilities to an operating system..." as defined in claim 1 is also not taught or suggested by Endres, et al. The Examiner even admits that the providing operation as defined in claim 1 is not taught or suggested in Endres, et al., on page 2 of the Office Action.

To overcome the aforementioned shortcoming of Endres, et al., the Examiner submits that modifying the teachings of Endres, et al., by the teachings of Kotha, et al., will render the claimed invention obvious. The Applicants traverse this grounds of rejection and submit that modifying the system of Endres, et al., by the teachings of Kotha, et al., still does not render the claimed invention obvious as Kotha, et al., does not teach or suggest "...substituting selected display capabilities or received capability parameters..." as defined in claim 1.

As understood, Kotha, et al., is directed to a system and corresponding method for storing and presenting image data having a first pixel resolution on a single display having a fixed display resolution (see, for example, column 7, lines 17-24). As disclosed, for example, at

column 7, lines 31-36, the pixel resolution of the single display device is set by developers before implementation and stored in the control logic thereof. Thus, receiving capability parameters regarding a first display of the multiple displays is not performed as the corresponding display parameters are stored within a logic component of the device before operation of the system. Consequently, Kotha, et al., is directed to a system employing a single fixed display resolution device, not a system capable of supporting multiple display devices per drawing surface.

The image data is disclosed as being adjusted (e.g., upscaled) in order for the image to be, for example, centered on the single display; thereby, leaving some portions of the display unused (see, for example, column 6, line 63-column 7, line 4). Accordingly, Kotha, et al., discloses virtual desktop mode operation which in contrast to the claimed invention. Thus, as Endres, et al., is directed to a multi-display system and Kotha, et al., is directed to a single display system, there does not appear to be any motivation within Kotha, et al., nor Endres, et al., to modify the teachings of Endres, et al., to operate in a single display manner. Notwithstanding the lack of motivation to modify Endres, et al., the combined teachings of the references still does not teach, suggest or provide the motivation to "...substituting selected display capabilities for the received capability parameters..." as defined in claim 1. Thus, the Applicants submit that modifying the teachings of Endres, et al., by the teachings of Kotha, et al., does not render the invention as defined in claim 1 obvious. Accordingly, reconsideration of the rejection of claim 1 is respectfully requested.

Claims 2-6 and 27 directly or indirectly depend upon and include the limitations of claim 1 and are allowable at least for the reasons set forth above with respect to claim 1. In addition, these claims define subject matter that is not taught or suggested by Endres, et al. as modified by Kotha, et al. More specifically, claim 6 defines the operation of receiving the capability parameters in response, for example, to a monitor change process. Such operation or the condition that results in such operation is not taught or suggested in those portions of Endres, et al. as presented by the Examiner. Thus, the Applicants traverse the Examiner's reasoning for rejecting claim 6. More specifically, the Examiner points to col. 2, lines 35-36 of Endres, et al. as corresponding to the claimed limitation. However, that portion of Endres, et al. does not mention receiving capability parameters in response to a monitor change. Col. 2, lines 35-36, and the remainder of the sentence recites:

“...when CreateDC is called, GDI returns a handle (“hDC”), which is a pointer to the device context and which is used later by the application to interact with the device context by passing the handle to other GDI APIs...”

which does not appear to have anything to do with a monitor change process or receiving the capability parameters in response to a monitor change process. Thus, for the reasons set forth above, the Applicants submit that claims 1-6 are not taught or suggested by Endres, et al. in view of Kotha, et al. Accordingly, reconsideration of the rejection of claims 1-6 is respectfully requested.

B. Rejection of claims 7-12 and 28

Claim 7 is an apparatus claim directed to a multiple display supporting module that is capable of supporting multiple displays in a non-virtual desktop mode. Claim 7, like claim 1 above, includes limitations directed to:

“...substitutes selected display capabilities for the received capability parameters; and  
provide the selected display capabilities to an operating system...”

As such, claim 7 is allowable at least for the reasons set forth above with respect to claim 1. Accordingly, reconsideration of the rejection of claim 7 is respectfully requested.

Claims 8-12 and 28 directly or indirectly depend upon and include all the limitations of claim 7 and are allowable at least for the reasons set forth above with respect to claim 7. In addition, these claims define subject matter that is also not taught or suggested by Endres, et al. as modified by Kotha, et al. For example, claims 12, like claim 6 above, includes a limitation directed to “...receive the capability parameters in response to a monitor change process...” As such, claim 12 is allowable at least for the reasons set forth above with respect to claim 6. Accordingly, reconsideration of the rejection of claims 7-12 and 28 is respectfully requested.

C. Rejection of claims 13-18 and 29

Claim 13 is an apparatus claim directed to a storage medium which is used in conjunction with a processing module such that when the operating instructions stored in the storage medium are executed by the processing module, the processing module provides for

multiple displays in a multiple display system not operating in a virtual desktop mode. Claim 13, like claim 1 above, includes limitations directed to:

“...storing operational instructions that cause the processing module to substitute selected display capabilities for the capability parameters; and storing operational instructions that cause the processing module to provide the selected display capabilities to an operating system...”

As such, claim 13 is allowable at least for the reasons set forth above with respect to claim 1. Accordingly, reconsideration of the rejection of claim 13 is respectfully requested.

Claims 14-18 and 29 directly or indirectly depend upon and include all the limitations of claim 13 and are allowable at least for the reasons set forth above with respect to claim 13. In addition, these claims define subject matter that is also not taught or suggested by Endres, et al. as modified by Kotha, et al. For example, claim 18, like claim 6 above, includes a limitation directed to “...receive the capability parameters in response to a monitor change process...” As such, claim 18 is allowable at least for the reasons set forth above with respect to claim 6. Accordingly, reconsideration of the rejection of claims 13-18 and 29 is respectfully requested.

D. Rejection of claims 19-22 and 30

Claim 19 is a method claim defining the operations performed by a system when supporting multiple displays per drawing surface. Amended claim 13 includes the following combination of operations:

“...determining selected display capabilities based on the capability parameters of each display of the multiple displays;  
substituting the selected display capabilities for the capability parameters of at least one display of the multiple displays; and  
providing the selected display capabilities to an operating system...”

Such combination of operations is not taught or suggested by modifying Endres, et al., by the teachings of Kotha, et al., as suggested by the Examiner. Consequently, the combination of Endres, et al., and Kotha, et al., does not render the invention as defined in claim 19 obvious.

As recited, claim 19 defines an operating method where a selected display parameter is substituted as the display capability parameter for each of the displays of a multiple display system, such that the larger multiple display system will not operate in a virtual desktop mode.

The advantages of not operating in the virtual desktop mode are described in greater detail above in Section III(A). Moreover, as discussed in greater detail above, modifying the teachings of Endres, et al., by the teachings of Kotha, et al., does not teach or suggest "...substituting the selected display capabilities for the capability parameters of at least one display of the multiple displays..." as Endres, et al., discloses the use of a GDI which formats data to be displayed in a format common (e.g., lowest common denominator) to a corresponding display, Kotha, et al., is not directed to a multi-display system, nor is there any substitution of capability parameters as the only display characteristics available for use are previously stored within a component thereof. Consequently, as neither Endres, et al., nor Kotha, et al., individually, or as modified as suggested by the Examiner, teach or suggest at least one principal limitation as defined in claim 19, the Applicants submit that claim 19 is not rendered obvious by the cited combination of references as asserted by the Examiner. Accordingly, reconsideration of rejection of claim 19 is respectfully requested.

Claims 20-22 and 30 directly or indirectly depend upon and include all the limitations of claim 19 and are allowable at least for the reasons set forth above with respect to claim 19. In addition, these claims define subject matter that is also not taught or suggested by Endres, et al. as modified by Kotha, et al. For example, claim 22, like claim 6 above, includes a limitation directed to "...receiving the capability parameters in response to a monitor change process..." As such, claim 22 is allowable at least for the reasons set forth above with respect to claim 6. Accordingly, reconsideration of the rejection of claims 19-22 and 30 is respectfully requested.

E. Rejection of claims 23-26 and 31

Claim 23 is an apparatus claim directed to a multiple display supporting module which includes the following limitations:

"...substituting the selected display capabilities for the capability parameters of at least one display of the multiple displays; and providing the selected display capabilities to an operating system..."

Claim 23, like claim 19 above, includes limitation directed to substituting a selected display capability parameter of the multiple displays of a multi-display system. As such, claim 23 is

submitted to be allowable at least for the reasons set forth above with respect to claim 19. Accordingly, reconsideration of the rejection of claim 23 is respectfully requested.

Claims 24-26 and 31 directly or indirectly depend upon and include all the limitations of claim 23 and are allowable at least for the reasons set forth above with respect to claim 23. In addition, these claims define subject matter that is also not taught or suggested by Endres, et al. as modified by Kotha, et al. For example, claim 26, like claim 6 above, includes a limitation directed to "...receive the capability parameters in response to a monitor change process..." As such, claim 26 is allowable at least for the reasons set forth above with respect to claim 6. Accordingly, reconsideration of the rejection of claims 23-26 and 31 is respectfully requested.

F. Rejection of claims 32-37

Claim 32 defines a method for supporting multiple displays per drawing surface, including the following combination of operations:

"...substituting a selected one of the display capability parameters for the received capability parameters; and  
providing the selected display capability parameters to an operating system..."

As such, claim 32, like claim 1 above, includes the combination of limitations directed to substituting a selected display capability parameters for a received capability parameters and providing the selected display capability parameters to an operating system for subsequent use in providing an image to multiple displays. As such, claim 32 is allowable at least for the reasons set forth above with respect to claim 1. Accordingly, reconsideration of the rejection of claim 32 is respectfully requested.

Claims 33-37 directly or indirectly depend upon and include all the limitations of claim 32 and are allowable at least for the reasons set forth above with respect to claim 32. In addition, these dependent claims define subject matter that is not rendered obvious by Endres, et al. as modified by Kotha, et al. For example, claim 37, like claim 6 above, includes a limitation directed to receiving capability parameters "...in response to a monitor change process..." As such, claim 37 is allowable at least for the reasons set forth above with respect to claim 6. Accordingly, reconsideration of the rejection of claims 32-37 is respectfully requested.

G. Rejection of claims 38-43

Claim 38 is directed to a multiple display supporting module including the following limitations:

“...substituting a selected one of the display capability parameters for the received display capability parameters; and  
providing the selected display capability parameters to an operating system...”

Claim 38, like claim 7 above, includes limitations directed to substituting a select one of the display capability parameters for a received display capability parameter and providing the same to an operating system. As such, claim 38 is asserted to be allowable at least for the reasons set forth above with respect to claim 7. Accordingly, reconsideration of the rejection of claim 38 is respectfully requested.

Claims 39-43 directly or indirectly depend upon and include all the limitations of claim 38 and are allowable at least for the reasons set forth above with respect to claim 38. In addition, these dependent claims define subject matter that is not rendered obvious by Endres, et al. as modified by Kotha, et al. For example, claim 43, like claim 6 above, includes a limitation directed to “...receive the display capability parameters in response to a monitor change process...” As such, claim 43 is allowable at least for the reasons set forth above with respect to claim 6. Accordingly, reconsideration of the rejection of claims 38-43 is respectfully requested.

IV. New Claims

Claims 44-48 have been added to recite and define further inventive aspects of the present invention. Support for these claims can be found in the originally filed application, for example, on page 6, lines 13-19. The Applicants submit that these claims are allowable over the art of record.

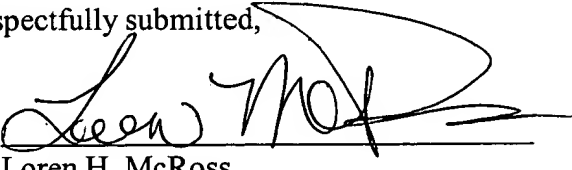
Based on the above amendments and remarks, the Applicants submit that claims 1-48 are now in proper condition for allowance and such action is earnestly solicited.



The Commissioner is hereby authorized to charge any underpayment or credit any overpayment to Deposit Account No. 50-0441 for any payment in connection with this communication, including any fees for extension of time, which may be required. The Examiner is invited to call the undersigned if such action might expedite the prosecution of this application.

Respectfully submitted,

By:

  
Loren H. McRoss  
Registration No. 40,427

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VEDDER, PRICE, KAUFMAN &  
KAMMHOLZ  
222 N. LaSalle Street  
Chicago, IL 60601  
(312) 609-7500  
FAX: (312) 609-5005



**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

**IN THE SPECIFICATION**

Please replace the paragraph beginning on page 6, line 12 with the following:

The processing continues at step 62 where selected display capabilities are substituted for the capability parameters. The selected display capabilities include display parameters that exceed the display capabilities of each of the multiple displays coupled to the computing system 10. For example, if the computing system 10 has three displays coupled to a single video graphics card, where the first display has a pixel resolution of 640 x 480, the second 720 x 540 and the third 1024 x 768, the selected display capabilities would have a resolution at least as great as 1024 x 768 and may further be increased to 1920 x 1440 or higher. As such, the selected display capabilities may be determined based on a composite of the display parameters of each of the multiple displays, such [an] as an average, a maximum display parameters, or default maximum display parameters. Alternatively, the selected display parameters may be determined based on capabilities of the video graphics card, for example, the video graphics card may be capable of handling a certain size display.